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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,640	12/12/2003	Wim Thomson	Q78124	1652

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EXAMINER	
JAMAL, ALEXANDER	
ART UNIT	**PAPER NUMBER**
2614	

MAIL DATE	DELIVERY MODE
01/08/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/733,640	THOMSON ET AL.	
	Examiner	Art Unit	
	Alexander Jamal	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 November 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Based upon the submitted amendment, the examiner notes that claims 1-8 have been amended.

2. Examiner notes that none of the amendments changed the claims at all, they were only cosmetic, or to remove reference characters in the claims.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-8** rejected under 35 U.S.C. 102(e) as being anticipated by Rezvani et al. (6760434).

As per **claim 1,** Rezvani discloses a hybrid circuit to interface line drivers 302 and 308 (Fig. 3B) with telecommunications line 324. The hybrid circuit has first and second line driver terminals (coming out of driver 302) and first and second terminals (the top of inductor 312 and the bottom of inductor 316) connected to telecommunications line 324. The terminals are electrically connected to the line via the transformer coupling between

inductors 312,314,316 and inductor 322. The hybrid comprises first series impedance (point 370 through R1 and inductor 312) and second series impedance (point 376 through R1 and inductor 316). The hybrid further comprises first cross-coupled impedance R3,R4 (near point 374) and second cross coupled impedance R3,R4 (near point 380). The first and second series impedances each comprise an inductor which is frequency dependant. Additionally, examiner notes that Rezvani discloses that the 'resistors' may be made up of any combination of capacitors, resistors, and inductors (Col 7 lines 55-65) to achieve a certain ohm value. Any capacitors or inductors used could also be read as a frequency dependant impedance.

As per **claims 2,4,** the hybrid may be used in an ADSL system which comprises transmitting and receiving data to/from a telecommunications line at differing frequencies where the transmit frequencies are distinct from the receive frequencies (Col 1 lines 45-65). Since the inductors or capacitors noted in the claim 1 rejection are frequency dependant, the impedance seen by the transmitted signals will be different from that seen by the received signals.

As per **claim 3,** Rezvani discloses that the transmit frequencies are higher than those of the receive frequencies (Col 1 lines 45-55) as seen by the central office (transmitting to the user). Rezvani further discloses that the hybrid may be situated at either end of the network (user side or CO side) (Fig. 3a). When situated at the user side the transmit (upstream to the CO) will be at lower frequencies, which will see a lower

impedance through inductors 312, and 316. This will be relatively lower than the receive (downstream from the CO) impedances.

As per **claim 5,** it is rejected as per the claim 1 rejection.

As per **claim 6,** the first and second resistors are substantially identical (R1) and the first and second impedance devices are also identical (312,316 in Fig. 3B).

As per **claim 7,** the two cross coupled impedances (R3,R4 in Fig. 3B) are identical.

As per **claim 8,** there is a receive terminal at each junction point for each cross coupled impedance (R3,R4 in Fig. 3B).

Response to Arguments

1. Applicant's arguments filed 11-21-2007 have been fully considered but they are not persuasive.

As per applicant's arguments about the examiner's use of 'terminals' in the rejection, the examiner's original rejection stated "The terminals are electrically connected to the line via the transformer coupling between inductors 312,314,316 and inductor 322. ". The 'terminals' referred to by applicant are the two inner connections to the portion 314 of the transformer. Examiner notes that the circuit of Rezvani Fig. 3B can be redrawn to match applicant's Fig. 1, with the exception that Rezvani discloses inductive portions of the transformer that are coupled in between R4 and the terminal (for each R4 and terminal leading to the telecommunications line). Examiner notes that applicant's spec. page 3 lines 5-20 specifically state that applicant is not limited to just the components claimed,

or even limited to a specific coupling (applicant states that any devices may be placed in-between the 'coupled' components. As such, The inductances of Rezvani would still read on the 'cross-coupled' branches claimed by applicant in relation to the terminals. Applicant is not trying to claim a specific circuit, only a general circuit structure with various impedances (which include the resistances). Examiner additionally notes that Rezvani discloses Fig. 1C, which will match applicant's structure without the inductance portions. Additionally, applicant notes that Rezvani specifically states that the 'resistances' may comprise ~~resistance~~ reactance. Rezvani further discloses that 'resistive elements' may comprise resistors and inductors (Col 4 lines 1-10). Rezvani also specifically states that the Resistive elements include a resistive and reactive component (impedance !!) (Col 5 lines 25-40). As such any of the resistive elements could comprise any number of resistors and inductors which will provide the 'frequency dependant impedance' of applicant's claims.

As per applicant's argument concerning the 'four terminals' of Rezvani, examiner notes that any connection point in a circuit could arbitrarily be read as a terminal. Examiner notes how the 'terminals' are being read above.

Applicant states that providing frequency dependant impedances could change the operation of the circuit (remarks page 7). Examiner agrees completely, and notes that both Rezvani and Applicant have contemplated that fact. The reason that both applicant and Rezvani disclose that any combination of components could be used is that they both know that a hybrid circuit must be designed for the specific implementation and desired frequency response. The 'operation' of the circuit must be designed (changed) in order to

successfully isolate the transmit and receive signals for the particular application. Applicant is claiming nothing more than a well know resistive bridge hybrid structure with impedances included with the resistors. Rezvani clearly discloses this (both Figs 1c and 3b).

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 571-272-7498. The examiner can normally be reached on M-F 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 571-272-7499. The fax phone numbers for the organization

where this application or proceeding is assigned are **571-273-8300** for regular communications and **571-273-8300** for After Final communications.

Examiner Alexander Jamal

December 12, 2007

CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600